OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATER
1562 W. First Ave., Columbus 12, Ohio

OHIO WATER PLAN INVENTORY
1959

MAUMEE RIVER *(LOWER PORTION)* AND TENMILE CREEK BASINS

UNDERGROUND WATER RESOURCES

Prepared by
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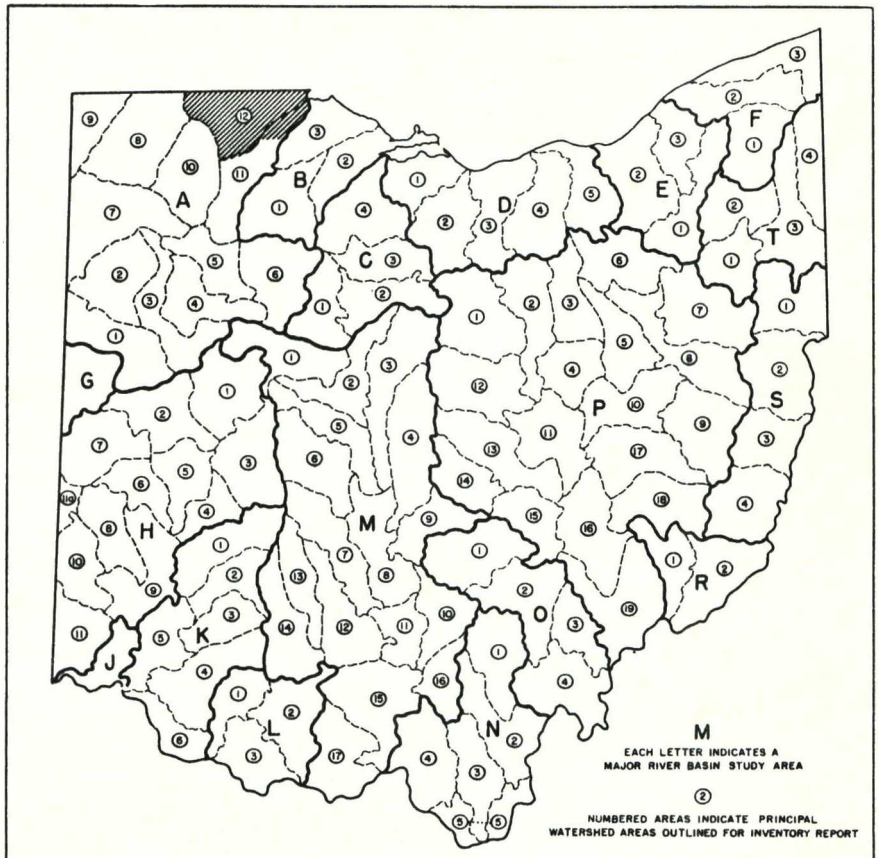
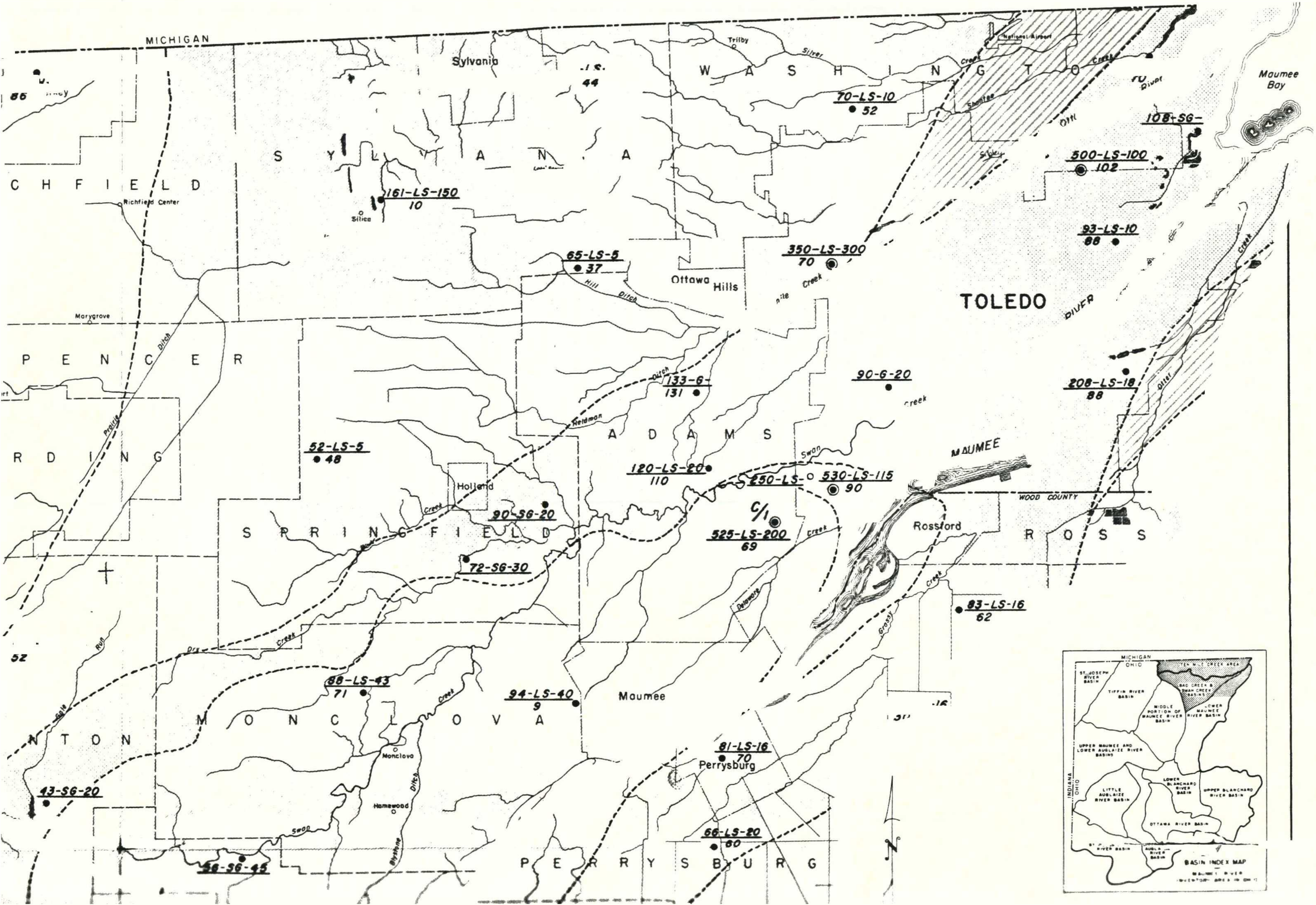
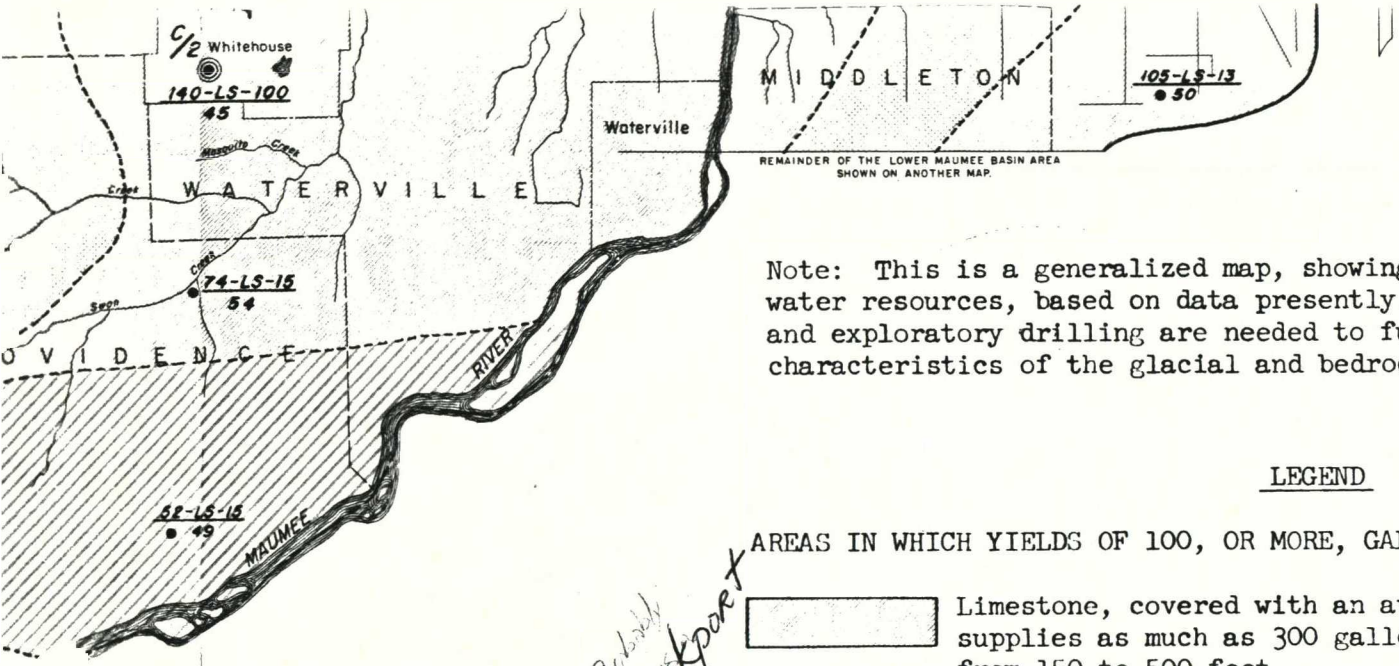
from data compiled by Lawrence R. Brunstetter.



OUTLINE MAP SHOWING DISTRIBUTION OF RIVER BASIN AND WATERSHED AREAS IN OHIO FOR STUDY IN THE WATER INVENTORY PROGRAM

The occurrence of underground water in any region is controlled by the size, shape and number of openings in the rocks of that region for it is in these spaces that water is contained. The openings are usually interconnected and therefore permit the movement of water from one opening to another. The number, size and interconnection of the water-bearing openings in various formations differ greatly. For this reason, wide variations in underground-water conditions are found as the geology differs from place to place.


MICHIGAN
Sylvania
Trilby
National Airport
Silver Creek
W A S H I N G T O
Maumee Bay
70-LS-10
52
108-SG-
500-LS-100
102
S Y L V A N I A
C H F I E L D
Richfield Center
Silica
161-LS-150
10
93-LS-10
88
350-LS-300
70
65-LS-5
37
Ottawa Hills
TOLEDO
Hill Ditch
Marygrove
P E N C E R
Prairie Ditch
133-G-
131
90-G-20
208-LS-18
88
Otter Creek
Heldman
A D A M S
52-LS-5
48
MAUMEE
120-LS-20
110
250-LS-
530-LS-115
90
Swan Creek
Holland
90-SG-20
C/1
525-LS-200
69
WOOD COUNTY
Rossford
R O S S
R D I N G
S P R I N G F I E L D
72-SG-30
83-LS-16
62
Grassy Creek
Delaware
Dry Creek
88-LS-43
71
94-LS-40
9
Maumee
M O N C L O V A
N T O N
81-LS-16
70
Perrysburg
Monclova
43-SG-20
Homewood
Blystone Ditch
66-LS-20
60
56-SG-45
P E R R Y S B U R G
MICHIGAN
OHIO
TEN MILE CREEK AREA
ST. JOSEPH RIVER BASIN
TIFFIN RIVER BASIN
MIDDLE PORTION OF MAUMEE RIVER BASIN
LOWER MAUMEE RIVER BASIN
UPPER MAUMEE AND LOWER AUGLAIZE RIVER BASINS
INDIANA
LITTLE AUGLAIZE RIVER BASIN
LOWER BLANCHARD RIVER BASIN
UPPER BLANCHARD RIVER BASIN
OTTAWA RIVER BASIN
BASIN INDEX MAP



Note: This is a generalized map, showing the potential underground-water resources, based on data presently available. Detailed studies and exploratory drilling are needed to fully define the hydrologic characteristics of the glacial and bedrock aquifers.

Lockport

LEGEND

AREAS IN WHICH YIELDS OF 100, OR MORE, GALLONS A MINUTE CAN BE DEVELOPED

Limestone, covered with an average of 60 feet of till, supplies as much as 300 gallons per minute at depths of from 150 to 500 feet.

Shallow buried valley. Sand and gravel layers, where present in the till, generally yield less than 20 gallons per minute. Good possibilities for small industrial supplies from underlying limestone.

Adequate domestic supplies from sand and gravel lenses at depths of less than 100 feet in the drift. Larger supplies from underlying limestone.

AREAS IN WHICH YIELDS OF 25, OR MORE, GALLONS A MINUTE CAN BE DEVELOPED

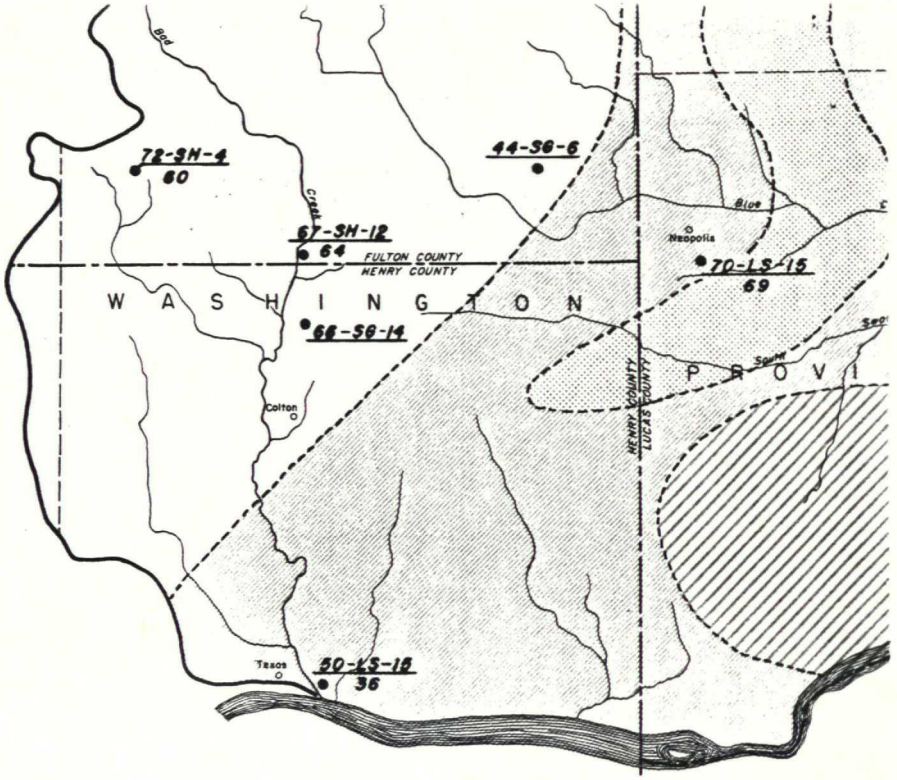
Drift averages 150 feet thick and contains occasional sand and gravel lenses which yield a maximum of 50 gallons per minute. Small supplies available from upper portion of shale bedrock.

SYMBOLS

- LS Limestone
- SH Shale
- S Sand
- G Gravel

is in text.

r formation - Yield (gpm)
k Ft.



MAP OF

MAUMEE RIVER *(LOWER PORTION)* AND TENMILE CREEK BASINS

SHOWING

AVAILABILITY OF UNDERGROUND WATER

PUBLISHED BY - STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATER

SCALE IN MILES

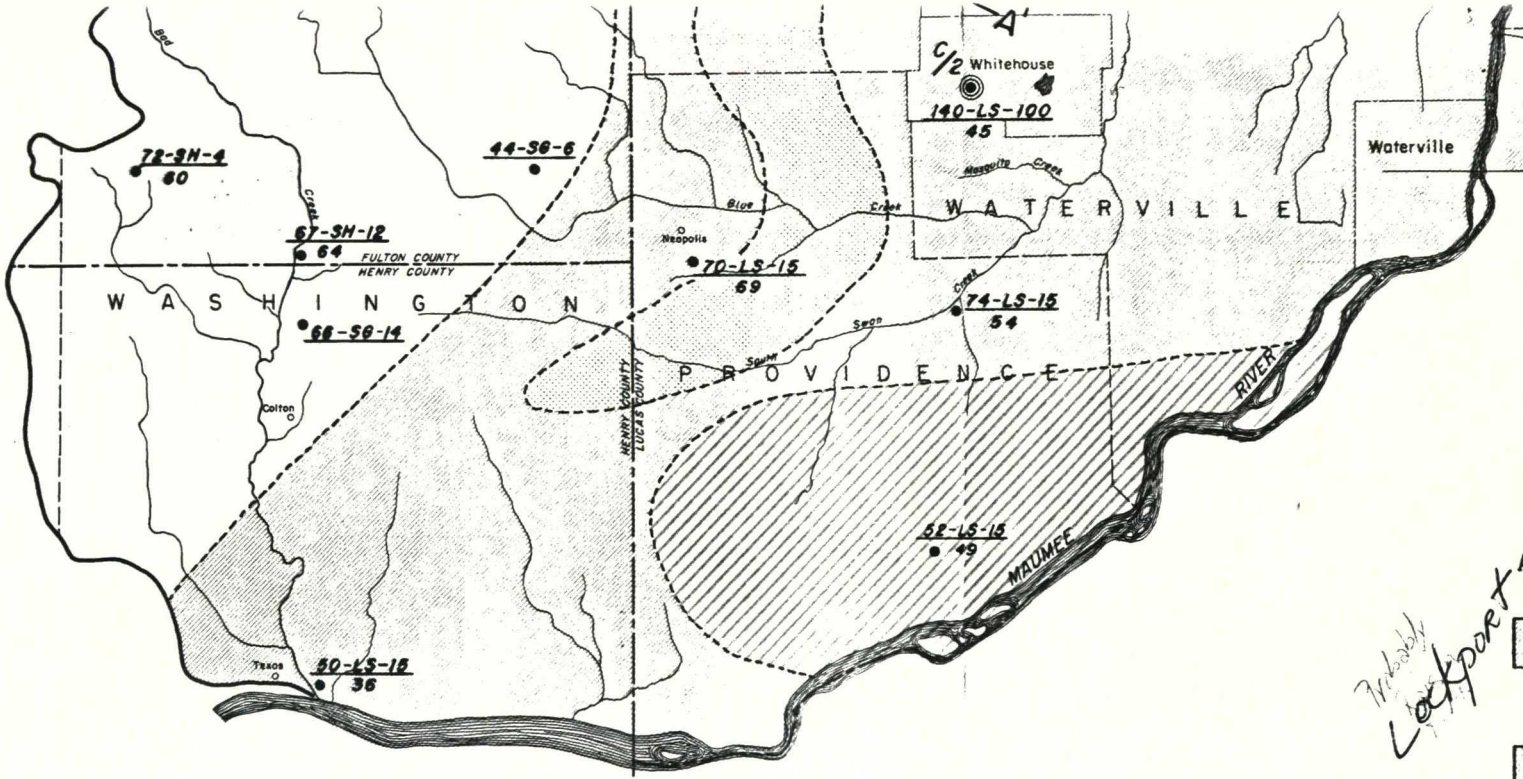
0 1 2 3 4 5

EXPLANATION OF SYMBOLS

- • Domestic well
- ◉ Industrial well
- ◉ Municipal well
- o Observation well

c/2 Chemical analysis in t

Total depth (Ft.) - Water bearing forma
Depth to bedrock (Ft.)



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MAP OF
(LOWER PORTION)
CREEK BASINS
HOWING
BILITY OF
UND WATER

MENT OF NATURAL RESOURCES, DIVISION OF WATER

IN MILES

EXPLANATION OF SYMBOLS

- • Domestic well
- ◉ Industrial well
- ◉ Municipal well
- o Observation well

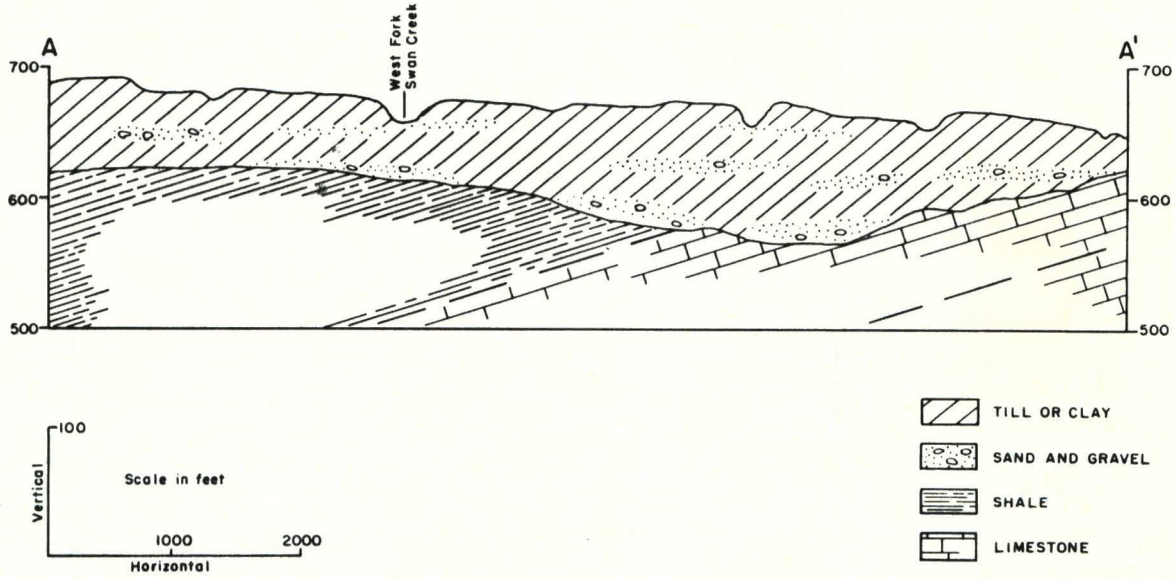
LS Limestone
SH Shale
S Sand
G Gravel

C/2 Chemical analysis in text.

Total depth (Ft.) - Water bearing formation - Yield (gpm)
Depth to bedrock (Ft.)

The eastern one-half of the basin area is underlain by limestones and dolomites of Silurian and Devonian ages. Bedrock beneath the western portion consists of Devonian shale. The entire area is covered with glacial drift, ranging from a thin veneer to 220 feet in thickness. The drift thickness becomes greater from east to west so that the limestone is generally less than 100 feet beneath the surface.

Portions of shallow preglacial buried valleys (section AA'), in the eastern part of the basin, contain as much as 120 feet of clay, sand and gravel. These buried valleys are remnants of an early drainage system which cut valleys into the bedrock before the area was glaciated. Later, with the coming of the glaciers, the valleys were completely buried by drift. Adequate domestic and stock supplies are available from these deposits and in the sand and gravel areas shown on the water resources map. Fair supplies may be obtained also from sand and gravel deposits contained in the thick drift covering the western portion of the basin. Lense-shaped deposits of coarse material may be capable of supplying up to 50 gallons per minute in this area.



CROSS SECTION A-A', SHOWING THICKNESS OF FILL IN BURIED VALLEY.

Yields of as much as 300 gallons per minute are obtained from wells drilled to depths of from 150 to 500 feet in the limestone and dolomite bedrock. Water occurs in the limestone in cracks, crevices and solution channels; and the yield from a well is proportional to the number of such openings intercepted by the well. The best wells are in the Toledo area where the limestone is close to the surface. The bedrock beneath the buried valley in the eastern part of the basin is considered to offer good possibilities for small industrial supplies.

The shale is a poor water source. However, small yields are sometimes available from the upper portion where, due to weathering, it is porous enough to contain some water. The water is likely to be highly mineralized.

Measurements of the ground-water level in an observation well on the grounds of the State Hospital, Toledo, have been recorded since 1946 by the Ohio Division of Water and the Ground-Water Branch, U. S. Geological Survey. A hydrograph for this well is given below: